

PAPER VII: DATA MINING

Credits: 4

Hours: 75

Objective: This course introduces the concepts of Data Mining.

UNIT - I

Introduction: Data mining – Functionalities – Classification – Introduction to Data Warehousing – Data Preprocessing : Preprocessing the Data – Data cleaning – Data Integration and Transformation – Data Reduction

UNIT - II

Data Mining, Primitives, Languages and System Architecture: Data Mining – Primitives – Data Mining Query Language, Architecture of Data mining Systems. Concept Description, Characterization and Comparison: Concept Description, Data Generalization and Summarization, Analytical Characterization, Mining Class Comparison – Statistical Measures.

UNIT - III

Mining Association Rules: Basic Concepts – Single Dimensional Boolean Association Rules From Transaction Databases, Multilevel Association Rules from transaction databases – Multi dimension Association Rules from Relational Database and Data Warehouses.

UNIT - IV

Classification and Prediction: Introduction – Issues – Decision Tree Induction – Bayesian Classification – Classification of Back Propagation. Classification based on Concepts from Association Rule Mining – Other Methods. Prediction – Introduction – Classifier Accuracy.

UNIT - V

Cluster Analysis: Introduction – Types of Data in Cluster Analysis, Partitioning Methods – Hierarchical Methods-Density Based Methods – GRID Based Method – Model based Clustering Method

TEXT BOOK

1. J.Han and M. Kamber, *Data Mining Concepts and Techniques*, 2001, Harcourt India Pvt. Ltd, New Delhi.

REFERENCE BOOK

1. K.P. Soman , Shyam Diwakar, V.Ajay “*Insight into Data Mining Theory and Practice* “, Prentice Hall of India Pvt. Ltd, New Delhi.